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Patent

Case No.: 58994US002

### IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

First Named Inventor:

LEE, TZU-CHEN

Application No.:

10/809135

Group Art Unit:

2811

Filed:

March 25, 2004

Examiner:

Unknown

Title:

**ORGANIC SCHOTTKY DIODE** 

Date

#### Information Disclosure Statement

Mail Stop: Amendment Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450 CERTIFICATE OF MAILING OR TRANSMISSION [37 CFR § 1.8(a)]

I hereby certify that this correspondence is being:

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OCT 2 2 2004

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Dear Sir:

Pursuant to 37 CFR §§ 1.56, 1.97, and 1.98, enclosed is a completed Form PTO-1449, citing references submitted for consideration by the Examiner. It is respectfully requested that the Examiner initial and return the enclosed Form PTO-1449 to indicate that each reference has been considered. Copies of any cited foreign patents, foreign publications, non-patent literature documents; and any pending U.S. applications filed before June 30, 2003, are enclosed. Copies of any pending U.S. applications filed after June 30, 2003 that can be accessed on the USPTO's IFW system are not enclosed as per USPTO Waiver dated September 21, 2004. Copies of any U.S. patents and published U.S. patent applications are not enclosed.

If a first Office Action on the merits has been mailed prior to the mailing date of this document, please charge the fee for consideration of an Information Disclosure Statement set forth in 37 CFR § 1.17(p), and if necessary, please charge any additional fees, or credit any overpayment to Deposit Account No. 13-3723.

Date

Office of Intellectual Property Counsel 3M Innovative Properties Company Facsimile No.: 651-736-3833

Respectfully submitted

Kent S. Kokko, Reg. No.: 33,931 Telephone No.: (651) 733-3597

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Substitute for form	1449A/PTO	(modified

### **INFORMATION DISCLOSURE** STATEMENT BY APPLICANT

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Page 1 of 4

Application Number	10/809135
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First Named Inventor	Lee, Tzu-Chen
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Examiner Name	Hung K. Vu
Attorney Case Number	58994US002

	U.S. Patent Documents						
Exam.	Cite	Document Number	Publication Date or Issue Date	Name of Patentee	Pages, Columns, Lines, Where Relevant Passages or Relevant		
Init.*	No.	Doc. Number-(Kind Code if Known)	MM-DD-YYYY	or Applicant of Cited Document	Figures Appear		
	A1	US- 2003/0105365 A1	06/05/2003	Smith et al.			
	A2	US- 6,114,088	09/05/2000	Wolk et al.			
	А3	US-					
	A4	US-					
	A5	US-					
	A6	US-					
	A7	US-					
	A8	US-					
	A9	US-					
	A10	US-					
	A11	US-					

	Foreign Patent Documents						
Exam.	Cite	Cite Foreign Patent Docu	eign Patent Document	Publication Date	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	Translation (Check if yes)
Init.*	No.	Ctry. Code	Number-KindCode (If known)	MM-DD-YYYY			
	B1	EP	1 017 118 A2	07/05/2000			
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	ВЗ						
	B4						
	B5						
	В6						
	В7						

OTHER DOCUMENTS			
Exam. Init.*	Cite No.	include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine,	Translation (Check if yes)
	C1	E. A. Silinsh and V. Capek, "Organic Molecular Crystals" AIP Press, New York, 1994.	

*Examiner:	Date Considered:

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

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## INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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MY & TRI	LL CONTRACTOR OF THE PARTY OF T	OTHER DOCUMENTS	
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	C2	Y. Shirota, T. Kobata, and N. Noma, "Starburst Molecules For Amorphous Molecular Materials, 4,4',4"-tris(N,N-diphenylamino)triphenylamine and 4,4'4"-Tris(N-(3-methylphenyl)-N-phenylamino)triphenylamine", Chemistry Letters, The Chemical Society of Japan, Vol. 7, pp. 1145 – 1148, 1989.	
	C3	Yasuhiko Shirota, "Organic Materials for Electronic and Optoelectronic Devices", Journal of Materials Chemistry, Vol. 10, pp. 1 – 25, 2000.	
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	C6	X. Zhou, M. Pfeiffer, J. Blochwitz, A. Werner, A. Nollau, T. Fritz, and K. Leo, "Very-Low-Operating-Voltage Organic Light-Emitting Diodes Using A P-Doped Amorphous Hole Injection Layer." Applied Physics Letters, Vol. 78, No. 4, pp. 410 – 412, January 22, 2001.	
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	C8	Y. S. Lee, J. H. Park, J. S. Choi, "Electrical Characteristics Of Pentacene-Based Schottky Diodes", Optical Materials, Vol. 21, pp. 433 – 437, 2002.	
	C9	J. Blochwitz, M. Pfeiffer, T. Fritz, K. Leo, "Low Voltage Organic Light Emitting Diodes Featuring Doped Phthalocyanine As Hole Transport Material", Applied Physics Letters, Vol. 73, No. 6, pp. 729 – 731, August 10, 1998.	

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		OTHER DOCUMENTS	
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	C10	J. Dreschel, M. Pfeiffer, X. Zhou, A. Nollau, K. Leo, "Organic Mip-Diodes By p-Doping Of Amorphous Wide-Gap Semiconductors: <i>CV</i> and Impedance Spectroscopy", Synthetic Metals, Vol. 127, pp. 201 – 205, March 2002.	
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	C13	J. Paloheimo, P. Kulvalainen, H. Stubb, E. Vuorimaa, and P. Yli-Lahti, Appl. Phys. Lett., "Molecular Field-Effect Transistors Using Conducting Polymer Langmuir-Blodgett Films", Vol. 56, No. 12, pp. 1157 – 1159, March 19, 1990.	
	C14	K. Hoshimono, S. Fujimori, S. Fujita, and S. Fujita, "Semiconductor-Like Carrier Conduction and Its Field-Effect Mobility in Metal-Doped C <sub>60</sub> Think Films", Japanese Journal of Applied. Physics, Vol. 32, No. 8A, pp. L1070 – L1073, August 1, 1993.	
	C15	A. Nollau, M. Pfeiffer, T. Fritz, and K. Leo. Journal of Applied Physics, "Controlled <i>n</i> -Type Of Doping Of A Molecular Organic Semiconductor: Naphthalenetetracarboxylic Dianhydride (NTCDA) Doped With bis(ethylenedithio)-tetrathiafulvalene (BEDT-TTF)", Vol. 87, No. 9, pp. 4340 – 4343, May 1, 2000.	
	C16	A. Werner, F. Li, K. Harada, M. Pfeiffer, T. Fritz, K. Leo, and S. Machill, "n-Type Doping of Organic Thin Films Using Cationic Dyes", Advanced Functional Materials, Vol. 14, No. 3, pp. 255 – 260, March 2004.	

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Page 4 of 4 58994US002 **Attorney Case Number** OTHER DOCUMENTS

		OTHER DOCUMENTS		
Exam. Init.*	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published	Translation (Check if yes)	
	C17	Z. Bao, A. J. Lovinger, and J. Brown, "New Air-Stable <i>n</i> -Channel Organic Thin Film Transistors", Journal of the American Chemical Society, Vol. 120, No. 1, pp. 207 – 208, 1998.		
	C18	P. R. L. Malenfant, C. D. Dimitrakopoulos, J. Gelorme, L. L. Kosbar, and T. O. Graham, "N-Type Organic Thin-Film Transistor With High Field-Effect Mobility Based On A N,N'-dialkyl-3,4,9,10-perylene Tetracarboxylic Diimide Derivative", Applied Physics Letters., Vol. 80, No. 14, pp. 2517 – 2519, April 8, 2002.		
	C19	U.S.S.N. 10/620027 filed July 15, 2003, entitled "Bis(2-Acenyl)Acetylene Semiconductors"		
	C20	U.S.S.N. 10/641730, filed August 15, 2003, entitled "Acene-Thiophene Semiconductors"		
	C21			

*Examiner:	Date Considered:	
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